

Claims

- [c1] A tube gripping ferrule for a tube fitting, the ferrule comprising:
- an generally cylindrical interior wall through the center of the ferrule so that said ferrule can be installed over a tube end;
 - an outer wall that axially tapers with a radially increasing dimension from a front portion of the ferrule to a back portion of the ferrule;
 - said front portion of the ferrule indenting and biting into an outer surface of a tube end when the fitting is assembled and pulled-up;
 - said interior wall comprising first and second cylindrical portions, said first cylindrical portion being axially adjacent a front edge of the ferrule, and said second cylindrical portion extending to a back edge of the ferrule;
 - said second cylindrical portion having a larger diameter than said first cylindrical portion.
- [c2] The ferrule of claim 1 wherein said back edge of the ferrule is radially spaced from the tube end when the ferrule is assembled into and pulled-up in the fitting.
- [c3] The ferrule of claim 1 wherein the ferrule is a front fer-

rule in a two ferrule tube fitting.

[c4] The ferrule of claim 1 wherein the ferrule is a back ferrule of a two ferrule tube fitting.

[c5] The ferrule of claim 1 wherein the ferrule comprises metal.

[c6] The ferrule of claim 5 wherein the ferrule comprises stainless steel.

[c7] The ferrule of claim 6 wherein the ferrule is case hardened.